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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TRIEU, THERESA

ART UNIT PAPER NUMBER

3748

DATE MAILED: 11/25/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/021,974

Applicant(s)

GRABER, JOHN R.

Examiner

Theresa Trieu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 and 31-47 is/are pending in the application.
- 4a) Of the above claim(s) 28-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-38, 42, 44-47 is/are rejected.
- 7) ☒ Claim(s) 1-27, 39-41 and 43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on october 30, 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is responsive to the applicants' election filed on October 3, 2003.

Election/Restrictions

Applicant's election with traverse of Group II in Paper No. 4 is acknowledged. The traversal is on the ground(s) that the search required for the embodiments of Group I and Group II are co-extensive. This is not found persuasive because the search required for the embodiment of Group I required an additional search in class 29/888.021. The requirement is still deemed proper and is therefore made FINAL.

Claims 28-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 4. Claims 1-27, 31-47 remain under consideration in this office action.

Claim Objections

1. Claims 1-27 are objected to because of the following informalities: page 14, line 6, --of a pump chamber -- should be inserted before "said first exhaust port". Claims 2-27 are objected to by virtue of their dependence on claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 31-34, 42, 44 and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Mohr et al. (Mohr) (Patent Number 5,393,209).

Regarding claims 31-34, as shown in Figs. 1 and 2, Mohr discloses a vacuum pump comprising: a pump chamber defining an inlet port (26) and an exhaust port (26'); a first rotor (11, 12) and second rotor (13, 14) each including a set of screw threads; a lobe (24) mounted to the first rotor adjacent the inlet port and a channel (25) defined in the second rotor adjacent the inlet port; the lobe (24) and the channel (25) matingly engage during rotation of the rotors; the first and the second rotors each including teeth which mesh together and move a fixed volume of gas from the inlet port to the exhaust port.

Regarding claims 42 and 44, Mohr further discloses the suction section (42) reduces the power consumed to move the volume of gas through the pump chamber and increases pump efficiency; a manifold (43- see col. 7, line 49-52) connecting the exhaust port (43) with a high pressure exhaust port.

The method claims 45 is inherent in the operation of the Mohr device.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. *Claims 35-38, 46 and 47 rejected under 35 U.S.C. 103(a) as being unpatentable over Mohr '209) in view of legal precedent.*

Regarding claims 35-38, 46 and 47, Mohr discloses the invention as recited above; however, Mohr fails to disclose a shape of the lobe and the channel. It would have been an obvious matter of design choice to have utilized the lobe and the channel being a V-shaped/radius shaped the since it has been held that a change in the shape of the element involves only routine skill in the art. *In re Dailey*, 149 USPQ 47 (CCPA 1966).

Allowable Subject Matter

4. Claims 39-41 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

The IDS (PTO-1449) filed on November 30, 2001 has been considered.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents.

Mocigemba (Patent Number 1,738,602) discloses a gear pump or engine.

Lysholm (Patent Number 2,410,172) discloses a rotary screw wheel apparatus.

Cerpelli (Patent Number 3,667,879) discloses a screw pump.

Osada (Publication Number JP 57-046083) discloses an improved quimby pump.

Mitani et al. (Publication Number JP 60-249689) discloses a screw compressor having two pair screws.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa Trieu whose telephone number is 703-308-6434. The examiner can normally be reached on Monday-Thursday 7:30am- 6:00pm - Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E Denion can be reached on 703-308-2623. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

TT

November 19, 2003



Theresa Trieu

Patent Examiner

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